

IN THE SPECIFICATION

Please amend the specification as follows:

The paragraph beginning at page 3, line 27 is amended as follows:

FIG. 1 is a cross-sectional schematic view of an integrated circuit packaging ~~substrate120~~ substrate 120 that includes a plurality of devices 110 thereon, according to an embodiment of this invention. The devices 110 provide electrical and physical interface of the packaging substrate 120. In actuality, the devices are embedded inside the packaging substrate 120. Generally, the packaging substrate 120 will include as many as several thousand identical or nearly identical devices 110.

The paragraph beginning at page 4, line 3 is amended as follows:

An integrated circuit packaging ~~substrate120~~ substrate 120 is processed to form the various layers that form the circuitry within the individual devices. One of the features commonly formed on an integrated circuit packaging substrate120 and, therefore in an individual circuit associated with a wafer or a chip, is a via 130. A via is a vertical opening filled with conducting material 131 used to connect circuits on the various levels of a device to one another. Vias also provide conductive paths from a level of circuitry to the exterior of the packaging substrate.

The paragraph beginning at page 5, line 15 is amended as follows:

FIG. 4B illustrates a schematic cross-sectional view of the feature 400 of a device at the location where the feature 400 is electrically connected to the second level 420 of circuitry, according to an embodiment of this invention. The base 404 of the via or device 410 includes an electrolytic copper layer 412 and an electroless copper layer 414. The second level of circuitry 420 also includes an electrolytic copper layer 418. The area also includes an interfacial adhesion layer 450. The interfacial adhesion layer 450 is comprised of an interfacial adhesion material which is diffused into the electroless copper layer 414 and the electrolytic copper layer 418

associated with the second level of circuitry 420 as well as the electrolytic copper layer 412 associated with the base 404 of the feature or via 400. The interfacial adhesion layer 450 has a multiple inter-diffused structure. The individual inter-diffused structure, such as tooth 451, extend from the electroless copper layer 414 into the electrolytic copper layer 412 associated with the base 404 of the feature or via 400. Other individual inter-diffused structure, such as a tooth 452, ~~extend~~ extends between the electrolytic copper layer 418 and the electroless copper layer 414. The inter-diffused ~~structure~~ structures of the interfacial adhesion layer 450 produces an enhanced mechanical bond at the interface between the base 404 of the feature or micro-via and the second level of circuitry 420 associated with the integrated circuit packaging substrate 110 shown in FIG. 1.

The paragraph beginning at page 6, line 3 is amended as follows:

An integrated circuit packaging substrate includes a first layer of conductive material 410, and a second layer of conductive material 420. The integrated circuit packaging substrate also includes a feature or via 400 for interconnecting the first layer of conductive material 410 and the second layer of conductive material 420. The via 400 further includes a base 404 positioned at the second layer of conductive material 420. The base 404 includes a conductive material 414, 418 and an interfacial adhesion material 450. The interfacial adhesion material 450 forms a solid solution with the conductive material 412, 414, 418. In one embodiment, the interfacial adhesion material 450 is palladium and the conductive material 412, 414, 418 is copper. The palladium forms a solid solution with the copper. In some embodiments the interfacial adhesion material 450 interdiffuses with the conductive material 412, 414, 418. The interdiffusion of the interfacial adhesion material and the conductive material is nonuniform. The interdiffusion of the interfacial adhesion material and the conductive material forms a plurality of structures 451, 452 that extend into the conductive material 412, 414, 418. The plurality of ~~inter-diffused~~ interdiffusion structures 451, 452 form a stitched bonding between the base 404 of the feature or via 400 and the second level of circuitry 420 to which the via 400 connects. The inter-diffused structures 451, 452 or the stitched bonding prevents failures at the interface between the base 404 of the feature or via 400 and the second level of circuitry 420.